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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,815	12/11/2003	Heike Quellhorst	H 5316 US	2795

7590

12/06/2005

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EXAMINER

MCKANE, ELIZABETH L

ART UNIT	PAPER NUMBER
1744	

DATE MAILED: 12/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

15

<b>Office Action Summary</b>	<b>Application No.</b> 10/734,815	<b>Applicant(s)</b> QUELLHORST ET AL.	
	<b>Examiner</b> Leigh McKane	<b>Art Unit</b> 1744	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 September 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6, and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata et al. (U.S. Patent No. 6,146,473) in view of Ahmed et al. (U.S. Patent No. 5,239,002).

Shibata et al. teaches a process for the nickel- and chromium-free treatment of untreated metal surfaces wherein the surfaces are contacted with an acid degreaser (col.7, lines 18-19) followed by contact with a composition including an acrylic resin comprising copolymers of N-heterocyclic monomers, wherein the acrylic resin is added in an amount of 0.01-10 g/l (col.3, lines 57-60). The monomers include N-vinyl caprolactam, N-vinylpyrrolidine, vinyl pyridine, and N-vinyl imidazole. See col.4, lines 1-6. The composition further includes at least one heavy metal, such as zirconium (Zr), which can be added in the form of a complex fluoride or phosphate. The complex fluoride or phosphate of the heavy metal is added in the amount of 0.01-10 g/l (col.5, lines 6-15). Additionally, the composition of Shibata et al. may include a phosphoric acid or phosphate in an amount of 0.01-20 g/l. See col.5, lines 21-29. The pH of the composition is approximately 2.0-5.0 (col.5, lines 65-66). While Shibata et al. discloses the use of N-heterocyclic copolymers as the acrylic resin, the use of vinylpyrrolidone specifically is not taught.

Ahmed et al., however, evidences the known use of nitrogen-containing copolymers of heterocyclic compounds in metal surface treatment compositions. Among the heterocyclic compounds enumerated by Ahmed et al. are monomers such as N-vinylpyrrolidone, vinylcaprolactam, N-vinylimidazole, and N-vinylpyridine. See col.2, lines 20-52. As Ahmed et al. equates vinylcaprolactam, vinylpyridine, and vinylimidazole (all employed by Shibata et al.) with N-vinylpyrrolidone (col.2, lines 46-52), it is deemed obvious to one of ordinary skill in the art to use N-vinylpyrrolidone as one of the N-heterocyclic monomers used in the copolymer of Shibata et al..

3. Claims 7, 8, and 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata et al. and Ahmed et al. as applied to claim 1 above, and further in view of Steinbrecher et al. (WO 96/27034).

With respect to claims 7, 8, and 13-16, although Shibata et al. teaches the use of complex fluorides of the heavy metals in amounts of 0.01-10 g/l, Shibata et al. fails to disclose specifically fluoric acids of the heavy metals. Steinbrecher et al. teaches a similar method of metal surface treatment wherein the heavy metals are added to the composition in the form of fluorometallic acids and anions thereof. The fluorometallic acids include  $H_2ZrF_6$  (col.8, lines 5-6). As Steinbrecher et al. discloses that the fluorometallic acids are functional equivalents of the anion form, it would have been obvious to substitute a fluorometallic acid for the heavy metal-fluoride complex of Shibata et al..

As to claims 12, 17, and 18, Shibata et al. is silent with respect to treating a metal surface having an anticorrosive layer thereon. Steinbrecher et al., however, discloses treating a metal surface which has a phosphate conversion coating thereon with a composition containing a

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fluorometallic acid and a vinylphenol polymer. As Steinbrecher et al. evidences that it was known in the art at the time of the invention to further treat phosphated metal surfaces, it would have been obvious to apply the method of Shibata et al. to phosphated surfaces, as well as, bare metal surfaces.

### *Response to Arguments*

4. Applicant's arguments filed 30 September 2005 have been fully considered but they are not persuasive.

5. On page 5 of the Response, Applicant submits that "the Office must establish that there was some suggestion, either in the reference or in the relevant art, of how to modify what is disclosed to arrive at the claimed invention" and that "the prior art as a whole must suggest the desirability, and, thus, the obviousness, of making the modification to the art."

The Examiner recognizes that references cannot be arbitrarily combined and that there must be some reason why one skilled in the art would be motivated to make the proposed combination of primary and secondary references. However, there is no requirement that a motivation to make the modification be expressly articulated. The test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art. See In re Simon, 174 USPQ 114 (CCPA 1972); In re McLaughlin, 170 USPQ 209 (\*CCPA 1971). References are evaluated by what they suggest to one versed in the art, rather than by their specific disclosures. In re Bozek, 163 USPQ 545 (CCPA 1969).

6. Specifically, Applicant argues on page 5 that there is "no teaching or suggestion of Applicants' claim 1 feature that the solution be free of divalent metals when phosphoric acid or

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anions of phosphoric acid is present.” However, as can be seen by the Examples of Shibata et al., the composition used to treat the metal surfaces contains only the acrylic resin and zirconium phosphate. Therefore, it is clear that Shibata et al. envisions using solutions which are free of divalent metal ions. Moreover, although Shibata et al. does disclose that nickel may be used as the heavy metal, the Examples do not use nickel, using zirconium instead.

7. Furthermore, although Applicant comments that Shibata et al. “appears to require that the acrylic monomer...be copolymerized,” it is noted that the instant claims recite “homo- and copolymers of vinylpyrrolidone.” Shibata et al. specifically teaches copolymers of monomers, wherein the monomers can be those containing a N-heterocyclic ring cited in col.4, lines 3-6. Although Applicant argues that there is no teaching in Shibata et al. that N-vinyl pyrrolidone could be substituted as a suitable monomer, the examiner notes that the teaching to substitute N-vinyl pyrrolidone for the monomers enumerated by Shibata et al. comes from the secondary reference, Ahmed et al.. Ahmed et al. clearly equates vinylcaprolactam, vinylpyridine, and vinylimidazole (all employed by Shibata et al.) with N-vinylpyrrolidone. They are thus functional equivalents in the art and one would have been obviously substituted for another.

### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

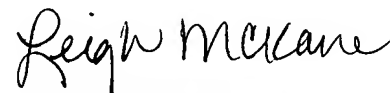
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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leigh McKane whose telephone number is 571-272-1275. The examiner can normally be reached on Monday-Thursday (5:30 am-2:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**Leigh McKane**  
**Primary Examiner**  
**Art Unit 1744**

elm  
29 November 2005